USDA Foreign Agricultural Service
GAIN Report
Global Agriculture Information Network
Template Version 2.09

Voluntary Report - public distribution

Date: 12/22/2004

GAIN Report Number: JA4091

Japan

Sanitary / Phytosanitary / Food Safety

Japan Establishes Residue Standards for Ractopamine Hydrochloride

2004

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Report Highlights:
Japan invited foreign Embassies to comment on the establishment of maximum residue limits for a veterinary drug, ractopamine hydrochloride. The deadline for submitting these comments is January 11, 2005. This proposal will be open for comments again when it is submitted to the WTO.

Includes PSD Changes: No
Includes Trade Matrix: No
Unscheduled Report
Tokyo [JA1]
[JA]

On December 21, 2004, the Ministry of Labor, Health and Welfare (MHLW) invited foreign Embassies in Tokyo to comment on the establishment of maximum residue limits (MRLs) for a veterinary drug, ractopamine hydrochloride, as shown in Table 1. Details on the course of the MRL establishment are summarized in Attachment 1. Foreign governments have until January 11, 2005 to comment.

The MRLs are NOT a part of the new provisional MRLs that MHLW is drafting (See GAIN Report JA3071, JA4051 and JA4067). MHLW will open the proposal for comments from a wider audience and notify the WTO SPS Committee before final review and adoption.

All interested parties are encouraged to send their comments, well before the deadline, for consideration to USDA's Foreign Agricultural Service. The office responsible for the comments is:

Food Safety and Technical Services
International Trade Policy Division
USDA Foreign Agricultural Service
Fax: 202-690-0677
Email: fstsd@fas.usda.gov

Table 1

Draft MRLs for Ractopamin Hydrochloride

Tissue (species)	MRL (ppm)
Muscle (cattle)	0.01
Fat (cattle)	0.01
Liver (cattle)	0.04
Kidney (cattle)	0.09
Muscle (pigs)	0.01
Fat (pigs)	0.01
Liver (pigs)	0.04
Kidney (pigs)	0.09

The figures are expressed as the levels of ractopamin.

Attachment.1

Discussion on the Establishment of Standards for Ractopamin Hydrochloride, Veterinary Drug, in Food (Summary)

I Background

This activity is to respond to an application made by a foreign business for the establishment of standards, based on the Guideline for Application for Establishment and Revision of Maximum Residue Limits for Agricultural Chemicals used outside Japan, published on February 5, 2004.*

Ractopamin hydrochloride is not permitted for use in food animals in Japan. The Ministry of Health, Labour and Welfare is going to newly establish standards for this substance targeting at imported animal products.

II Summary report of discussion at the Subcommittee on Pesticides and Veterinary Drug under the Pharmaceutical Affairs and Food Sanitation Council

1. Substance

Benzenmethanol, 4-hydroxy-alpha-[[[3-(4-hydroxyphenyl)-1-methylpropyl]amino] methyl]-hydrochloride

2. Use

Increase in weight gain, improvement of feed efficiency, and increase in leanness.

Ractomanin hydrochloride is a phenethanolamin salt. It acts as a β-adrenoceptor agonist in the living body and has various effects on animals. It is applied to improve feed efficiency and increase weight gain and carcass leanness. It is dosed with the feed.

* The following site shows the details:
http://www.mhlw.go.jp/english/topics/foodsafety/dl/importguideline.pdf

3. Metabolism

Ractopamin hydrochloride is rapidly excreted when dosed orally. The major excretion route is in the urine. The substance absorbed in the body is mainly distributed in the liver and kidney and metabolized into glucuronides.

4. Residue study results

The tables show the results obtained from the residue studies conducted on cattle and pigs.

(1) Ratios of ractopamin, as the parent compound, to the total residues in the liver and kidney of cattle or pigs

Species	Liver (%)	Kidney (%)	Dose and withdrawal time
Cattle	13.2	22.5	30ppm, 12 hrs.
	22.1	13.4	45ppm, 12 hrs.
	11.5	13.5	45ppm, 12 hrs.
Pigs	27.2	23.4	30ppm, 12 hrs.
	14.0	27.7	20ppm, 24 hrs.

Recommended dose: cattle 10–30 ppm, pigs 5–20 ppm.

(2) Maximum residue levels at 12 hours after the last administration at the maximum doses

Species	Tissue	Residue level (ppm)	Maximum dose
Cattle	Muscle	0.02*1	45 ppm
	Fat	0.01*1	45 ppm
	Liver	0.036	30 ppm
	Kidney	0.043	30 ppm
Pigs	Muscle	0.005	20 ppm
	Fat	0.001	20 ppm
	Liver	0.026	15 ppm*2
	Kidney	0.045	15 ppm*2

Note 1 : Total radioactivity residues (ractopamin equivalent)

2: This study showed the maximum residue levels at the dose level below the maximum (20 ppm).

5. Acceptable daily intake (ADI)

Ractopamin hydrochloride was evaluated by the Food Safety Commission in the Cabinet Office as follows:

ADI of Ractopamin Hydrochloride: 0.001 mg/kg body weight/day
No-observed-effect level: 0.125 mg/kg body weight/day
Animal species: rhesus monkeys
Dose: 0.125 mg/kg body weight/day
Administration route: nasogastric gavage
Duration: one year
Study type: one-year study
Safety factor: 100

6. Draft maximum residue limits (MRLs)

(1) Substance to be regulated

Ractopamin

(2) The table shows draft MRLs. The MRLs proposed by JECFA have been adopted as Japanese MRLs.

Tissue (species)	MRL (ppm)
Muscle (cattle)	0.01
Fat (cattle)	0.01
Liver (cattle)	0.04
Kidney (cattle)	0.09
Muscle (pigs)	0.01
Fat (pigs)	0.01
Liver (pigs)	0.04
Kidney (pigs)	0.09

The figures are expressed as the levels of ractopamin.

(3) Ratios to the ADI

The table shows the ratios of the theoretical maximum daily intake (TMDI) to the ADI. The TMDI refers to the amount of ractopamin that is estimated to be consumed a day, based on the National Nutrition Survey, when it is assumed that the substance remains in each food up to the draft maximum residue level.

The middle column shows ratios for ractopamin alone. The right column shows ratios of the total residues, which were converted to ractopamin, to the ADI. Because the major metabolities of ractopamin hydrochloride in cattle and pigs are glucuronides, the committee considered the possibility that when these animals containing the metabolites are consumed as food, they can be hydrolyzed to ractopamin in the human gastrointestinal tracts. For the conversion of the total residues to ractopamin, a certain factor (percentage) was used, taking into JECFA's factors obtained from residue study data for cattle.*

	TMDI/ADI (%)	
	Ractopamin	Total residues
National average	1.2	7.6
Young children, aged between 1 and 6	2.2	14.4
Pregnant women	1.2	8.0

Note: In the joint committee report, the factor 15% was used as the ratio of ractopamin to the total residues. JECFA uses 20.0% for the liver and 16.7% for the kidney.